Economics and Sociology
Occasional Paper No. 2062

FROM POLICIES, TO TECHNOLOGIES, TO ORGANIZATIONS: THE EVOLUTION OF THE OHIO STATE UNIVERSITY VISION OF RURAL FINANCIAL MARKETS

by

Claudio Gonzalez-Vega

May 1993

Paper presented at the conference
FINANCE 2000
Financial Markets and Institutions in Developing Countries:
Reassessing Perspectives

Organized by
The Ohio State University,
the Institute for Policy Reform, and the
Office of Economic and Institutional Development
Bureau for Research and Development of the
U.S. Agency for International Development
Thursday, May 27 and Friday, May 28, 1993
Washington, D.C.

Rural Finance Program
Department of Agricultural Economics
and
Rural Sociology
The Ohio State University
2120 Fyffe Road
Columbus, Ohio 43210-1099

FROM POLICIES, TO TECHNOLOGIES, TO ORGANIZATIONS: THE EVOLUTION OF THE OHIO STATE UNIVERSITY VISION OF RURAL FINANCIAL MARKETS

by

Claudio Gonzalez-Vega[1]

I. Introduction

Views about the role of financial markets in processes of rural development have seldom been dispassionate. Over the past decades, conflicting perspectives on this role have influenced rural financial market programs, policies, and procedures, with mixed results. This paper is broadly concerned with the interactions among research findings, international donor programs, and policy decisions about rural financial markets (RFMs) in developing countries.[2] It discusses some of the outcomes of the resulting confrontation/collaboration among academics, the donor community, and policymakers in developing nations. It illus-

---

[1] Professor of Agricultural Economics and Economics at The Ohio State University. Financial support for this and related research has been received through the Cooperative Agreement on Financial Resource Management (FIRM) between The Ohio State University and the Agency for International Development. This paper reflects the views collectively developed by faculty, students, and consultants associated with the Rural Finance Program at Ohio State. While acknowledging their continuing influence, the author accepts full responsibility for the interpretations offered here. The author is specially grateful to the numerous authorities, bankers, professionals, and academics in several developing countries who have been willing to interact with him and consider experiments in economic policies and procedures based on the ideas discussed in this paper.

[2] In tracing the evolution of government intervention, policies, and assumptions, as well as research perspectives, and in relating this evolution to the development of The Ohio State University vision, this paper borrows from Adams (1987).

trates the nature of those interactions from the perspective of the evolution of the contributions to the debate by the Rural Finance Program at The Ohio State University (OSU).

The extent to which research efforts and results have followed or led the identification of problems and the adoption of policies and practices has not been even over time. It would actually be possible for a historian to identify waves of ideas and the cyclical behavior of policymaking. Nevertheless, with funding from the Agency for International Development (AID), The Ohio State University's Rural Finance Program has been the first and the most persistent attempt to systematically look at the interactions between financial market performance and rural development around the world.

As a result of its continuing presence, the Rural Finance Program has been a major vehicle and focus for the interactions among the three sets of actors. This paper builds on this continuity, to highlight some key lessons learned about effective strategies for rural financial market development and to identify some unresolved issues, from the perspective of the evolution of the OSU research agenda.

For over three decades, the OSU school has challenged the assumptions of traditional rural finance programs, has developed new conceptual frameworks for the understanding of RFM activities, has influenced the strategies of donor agencies and the policies of developing country governments, and has been directly involved in the promotion of RFM innovations. The Ohio State University views have not been static. Rather, the Program's focus and perspectives have evolved over time, as a result of new insights among its members, interactions with the academic community, and lessons learned, but particularly in response to new challenges from the field.

Infused with a vocation for applied research, the group has struggled in the field in efforts to harness insights from theory, results from evaluations and diagnoses [?], and common sense about what is or is not feasible, in an attempt to help improve the performance of RFMs and mobilize their potentially beneficial influence on the economic life of people in the developing world.[3] In turn, the Program has continuously attempted to utilize lessons from the numerous field experiences in which it has been involved in the reassessment of general principles and theory.

In the process, a successful model for policy dialogue and institution building, based on the establishment of long-term academic-practitioner relationships, has been developed and tested. For this reason, the lessons reported in this paper refer not only to the "what to do and not to do" (substance) and to the "how to do it" (procedure), but also to the "how to induce people to do it" (persuassion). Over the years, OSU has made major advances in understanding these three sets of questions and the interactions among them. This progress has been incremental, with much of the emphasis being dictated by what has been important in the field.

Descriptive research during the 1960s on the main features of RFMs in several developing countries was soon followed by an emphasis on policies, in recognition of the high social costs and limited effectiveness of the strategies of RFM development adopted

---

[3] In this respect, the Rural Finance Program belongs to the "practitioners of economics," in the sense of Arnold C. Harberger's (Richard T. Ely) Lecture on "The Search for Relevance in Economics," 1993).

in most countries since the early 1950s.[4] Probably as a result of its success in this endeavor, the OSU school has been best known for its challenge of the assumptions underlying those programs and for the accompanying policy recommendations.

It has always been clear to OSU researchers that, while very important, correct policy frameworks are only a necessary, but not a sufficient condition for improved financial market performance (Gonzalez-Vega, 1986b). It was necessary to start from policies, however, in view of the extent of the widespread policy failures identified worldwide in the early 1970s and the colossal political opposition to the prescribed reforms. This opposition reflected the magnitude of the implicit subsidies captured by powerful beneficiaries and the value of "credit patronage" to influential politicians (Blair, 1984), as well as the inability of those penalized by incorrect policies (typically the depositors and those borrowers excluded from access to loans by the constraints generated by the regulatory framework) to get organized and promote their interests (frequently defined as uncertain benefits to be reaped only in some distant future).

Given its contentioness, the battle on policies has been fought hard and has been inevitably long. In the process, OSU researchers became specially sensitive to the political economy dimensions of policy reform efforts (Ladman and Tinnermeier, 1981; Mesalles-Jorba, 1991). Rather than taking the constellation of political economy forces as exogenous,

---

[4] [4] OSU research in Colombia, Brazil, Ecuador, Peru, Laos, and Nigeria in the mid-1960s, based on farmer surveys, described the terms and sources of loans, lender procedures, and the relative importance of informal lending. Soon, the poor performance of most agricultural credit programs became evident and Dale Adams (1971) initiated a career of making people understand why.

in its policy recommendations the Program has attempted to explicitly endogenize those constraints derived from as well as behavior in the political arena.

As experience has shown, in the absence of a hospitable policy framework, it is very difficult for any initiative in the provision of financial services to marginal clientele to flourish. The Rural Finance Program has been interested, however, in improving the supply of financial services to large segments of the population and to marginal clientele in particular.[5] In addition to its global resource allocation implications, policy reform has been emphasized by OSU mostly as a precondition for the achievement of the former goal.

The OSU view has been that, not only do incorrect policies impose efficiency costs on society but that, in particular, the set of policies prevailing in the 1970s were ineffective in achieving their own ostensible purposes (e.g., helping the small farmer) and that, in order to reach (i.e., implicitly "target")] "difficult" clientele, it was necessary to adopt a different policy framework. Furthermore, reforms were needed not only in financial policies but, particularly, in non-financial policies that affect the creditworthiness of borrowers and the level and dispersion of risks and transaction costs in financial markets.

When and where policies were revised and, particularly, in those instances when OSU actually participated in the evaluation, design, or implementation of specific RFM programs, the (theoretically prescribed) additional recommendations on financial technology innova-

---

[5] The original concern with "small farmer credit problems" has become only a proxy (shorthand) for a preoccupation with difficulties of access to financial services by particular groups of society. Recently, the importance of the OSU lessons in the small farmer credit realm has become evident in connection with the design of microenterprise credit programs (Meyer and Nagarajan, 1988; Gonzalez-Vega and Chaves, 1991; Adams and Von Pischke, 1992; Rhyne and Otero, 1991).

tions and institutional strengthening became relevant in the field (Gonzalez-Vega, 1986a). Recognition of the relative importance and measurement of the transaction costs incurred by all financial market participants shifted OSU's focus from policies to the development of cost-effective technologies for the supply of financial services to marginal clientele.

Success in the implementation of some of the earlier recommendations was the source, moreover, of "second-generation" problems (Gonzalez-Vega and Poyo, 1986). For instance, the rapid expansion of lending activity by cooperatives in the OSU Rural Savings Mobilization Project in the Dominican Republic forced the transfer of more formal liquidity and portfolio management technologies to what were initially simple, locally-based organizations (Poyo, Aguilera-Alfred, and Gonzalez-Vega, 1992). On the other hand, OSU advisors became concerned with the need for prudential supervision once the mobilization of rural deposits became significant (Chaves and Gonzalez-Vega, 1992). This is the focus of some of the most important OSU contributions of the past decade.

The last step in the evolution of the OSU views about RFMs has been an increasing concern with the role of contracts/institutions/organizations (Chaves, 1993). Organizational design is critical because it is the behavior of individual agents within organizations that determines the successful adoption of new policies and technologies. In the same way in which during the 1970s OSU adopted the Shaw and McKinnon views on finance and development and adapted them to the particular problems of RFMs, in the 1990s the Program has increasingly incorporated theoretical developments about the role of institutions and information in determining the behavior of economic agents, including the organizations that operate in financial markets.[6] OSU's most recent research has focused on these organizations *cum* contracts/information *cum* institutions line of enquiry (Chaves and Gonzalez-Vega, 1993).

This paper deals with at least two triads:

(a) the research/donor-program/policymaking interactions in the development of interventions in and strategies for RFMs, and

(b) the policy/technologies/organizations package that has increasingly characterized OSU's approach to financial markets and rural development.

Significant lessons for theory/policymaking/practice have resulted from the continuity of relationships between academics and practitioners, cultivated under the Rural Finance Program. These lessons are valuable inputs not only for the ongoing strategies for RFM promotion in developing countries, but also for the development of financial institution and systems in regions such as Eastern Europe and the former Soviet Union.

II. Access to Credit: Market Imperfections and Incomplete Organization

Concern with the degree of access to credit, particularly by small farmers, became an important question in growth strategies for the rural areas of the developing countries

[6] As pointed out by Jensen and Warner (1988), work in this area "is progressing under various labels," including the economics of contracting (Holstrom and Tirole, 1987), transactions costs (Williamson, 1975), property rights (Demsetz, 1983), corporate finance (Grossman and Hart, 1982), information and performance measurement (De Angelo, 1985), and governance and contracting (Posner, 1977), among others cited by them. Similarly, a large body of literature on the importance of information in financial constracts has evolved from work such as Jaffee and Russell (1976) and Stiglitz and Weiss (1981).

early in the 1950s and onwards. As defined, there were two related dimensions of the perceived rural credit problem:

(a) there was a generalized lack of access of the rural population to formal credit services,[7] and

(b) although access to informal credit was apparently widespread, it occurred at very high rates of interest.[8]

The lack, high price, or excessive burden of credit were seen as major causes of poverty.[9] The main assumption was that the observed lack of access to credit and the high and dispersed rates of interest charged by moneylenders and other intermediaries in informal markets were a reflection of market failure.

---

[7] There was no similar concern with the lack of access to deposit facilities.

[8] Frequently, the exhorbitant rates quoted were examples of the most extreme rates observed, usually on very short-term loans. In a classic paper on the subject, Wai (1957) reported that "in the majority of the countries the weighted average interest rate in the unorganized money market must lie between 24 and 36 per annum" (p. 123). Similarly, the All-India Rural Credit Survey found an average informal rate between 20 and 24 percent (Mellor, 1966). In the United States, Smith (1964) found that the charges of consumer finance companies ranged between 22 and 35 percent, not very different from those observed elsewhere. Moreover, a large majority of lenders in the developing countries were "non-commercial" (friends and relatives), who charged very low rates or no interest at all.

[9] The following statement is typical of this perspective: "High rates of interest and a high burden of farm debt are characteristic features of the agrarian structure in many under-developed agricultural countries. Shortage of credit may be both cause and effect of poverty. It may be a cause, in that lack of ready money in the hands of the farmer prevents investment in the farm. But it may also be the effect or symptom of poverty, in that high interest rates and a high burden of debt may reflect a chronic insufficienty of the farmer's income, and a permanent tendency for consumption to outrun production" (United Nations, 1951).

On the one hand, it was presumed that interest rates mostly reflected excessive monopoly power.[10] On the other hand, it was believed that commercial banks were extremely conservative.[11] More generally, the perception was that the market could not be expected to provide either the adequate volume or the desired channelling of funds to priority clientele at "reasonable" prices. Once such "market imperfections" had been identified, a "correction" was required and it became clear that "the government had to do something about it." The answer was the creation of specialized public development banks and of other subsidized, directed, and supervised credit programs.

This interpretation of the causes and consequences of the lack of access to credit had a strong influence on the nature of the policy recommendations. To see why, in any evaluation of the strategies and policies adopted, two questions must be asked:

(a) was the diagnosis correct, and

(b) were the policy instruments to deal with the imperfections so identified properly chosen?[12]

---

[10] These views dominated the International Conference on Agricultural and Cooperative Credit held at the University of California (Berkeley) in 1952 (Bauer, 1952; Davis, 1952).

[11] "The shortage of credit arises from the fact that the structure of the banking system is not adapted to the needs of the small farmer; to the extent that shortage of credit is due to such structural deficiencies,it can be remedied by the creation of special agencies to provide agricultural credit in appropriate forms" (United Nations, 1951).

[12] These are among the questions that must be typically answered for the correct application of neo-classical optimum intervention theory [Bhagwati, 1971].

"Market failure" in the traditional sense was not necessarily the only possible or the most important explanation of the patterns observed in RFMs.[13] A distinction between market imperfections, on the one hand, and the consequences of a not-fully developed infrastructure or of an incomplete organizational framework, on the other, is useful in this connection (Myint, 1985). For instance, in a frictionless economy, all price differentials for the same commodity would be interpreted as price distortions.[14] Once the presence of friction in markets is recognized, however, price differentials may actually reflect the costs required to overcome the frictions resulting from an incomplete organizational/institutional framework or an inadequate infrastructure.[15]

---

[13] It is important to keep in mind that the improved understanding of the sources and consequences of market failure in financial markets, particularly in light of information issues, is a comparatively recent development. The traditional sources of distortions were market power and externalities. Nevertheless, several students of interest rates in informal markets concluded that "as long as individual farmers remain small operators with relatively petty needs, and perhaps intermittent reluctance or inability to repay, they will go on borrowing in small amounts, each of which will require time to negotiate and recover, and the administration costs on each dollar which the moneylenders loan will continue to be high" (Bottomley, 1963a). These costs, "together with the premium for risk, are probably the major determinants of the high levels of interest rates" (Bottomley, 1963b). On the basis of expected interest rates for short durations, given conservative assumptions, Long (1968) concluded that monopoly power was not very great. OSU researchers confirmed these observations. Moreover, at that time the nature of potential externalities in financial markets was not well understood yet.

[14] This is equivalent to the idea that not all agents have access to credit at the same price.

[15] These include marketing, transaction, administrative, insurance, and information costs. Thus, regional differences in the price of rice, differentials between farm-gate/wholesale/retail prices, seasonal price variations and the like (including the impossibility to get a particular commodity in a given location/time) reflect, among others, the costs of harvesting, sorting, bulking up, transporting, insuring, storing and the like. The magnitude of these costs depends, in turn, on the degree of market organization and of development of the physical and institutional infrastructure.

It becomes important to determine, therefore, to what extent the patterns observed in RFMs were signs of "distortions" to be corrected by some tax-cum-subsidy or another intervention in the market, as different from opportunities for an improved allocation of resources to be achieved through the further development of the physical and institutional infrastruture and market organization required to reduce transaction costs (North, 1981). This distinction is not an easy task in any case, since in most actual situations the symptoms of the two sets of causes are mixed up and it is not easy to disentangle them, but to do so is critical in the identification of the proper intervention.

Improvements in the infrastructure and the organizational framework (typical public goods) still would have required the actions of the state, but such activities are very different from the manipulation of prices and quantities and other interferences with market operations that characterized the protectionist strategies adopted since the 1950s. Moreover, such improvements in infrastructure and the organizational framework require (frequently a substantial) commitment of resources. It is not sufficient, therefore, to identify an opportunity for potential benefits from intervention. The most critical question is: at what cost?

The appropriate course of action in this case is, therefore, to compare the expected benefits and costs of such investments in social overhead capital (including the opportunity costs of the resources so utilized).[16] If the costs are higher than the expected benefits, the present situation would represent the best attainable position, given the existing technology

[16] On the other hand, it may be assumed that "true distortions," such as private monopoly or incorrect government regulation can be removed without any real resource cost in economic terms (although there may be political costs). As will be shown below, this may not even be the case in these circumstances.

and market size, and there would be no reason for government intervention. No intervention is called for, even if prohibitive transaction costs prevent the "market" from emerging.[17]

Moreover, neo-classical optimum intervention theory eventually developed criteria for the choice of policy instruments in the presence of market distortions. Given the imprecise identification of market failure as an explanation of the patterns observed in RFMs, the specific interventions selected were not necessarily the most appropriate from this perspective, even if such imperfections were actually important, nor was the dosage of the interventions thus selected in any way related to an accurate measurement of the extent of deviations of private from social costs. Major welfare losses resulted, therefore, from the incorrect choice of both the instrument and the dose of application.[18]

Furthermore, incomplete organization/institutions/infrastructure not only explains price differentials and other apparent forms of market failure, but it also imposes severe constraints on the implementation of government interventions. In the same way that firms and banks in the private sector have to operate through a series of middlemen making up the retail-wholesale links to reach the myriad of small agents widely scattered in the rural sector, the headquarters of government in the capital cities have to operate through a series

---

[17] This would be the case, in the specific case, even if some agents continue not no have access to formal credit. On the other hand, in general, policy-induced uniform prices, mandated to "correct" for observed differentials would, in these circumstances, further undermine the tenuous links that allow the existing market to operate.

[18] Even today, despite increased understanding of the nature of market failure in financial markets, "we are still some distance away from being able to use the theoretical results to find a robust class of cases where government intervention is warranted" (Besley, 1992, p.1).

of their own "middlemen," which make up the "retail-wholesale" links in the administration via the district offices all the way down to the village level (Myint, 1985). In the same way as market prices change with distance, the effectiveness of these links decreases as one moves away from the headquarters to the remoter peripheral areas. Similar, information and agency problems increase with distance. Moreover, because governments would have to incur in large differentials in costs to provide all sectors with the same level of services, not everyone will similarly benefit from potential interventions.[19]

Identification of a theoretical reason for intervention is a necessary but not a sufficient condition for government action. There are opportunity costs as well as severe organizational constraints on the capacity of the authorities to implement any policy. In the specific case of the financial market policies adopted since the early 1950s, the focus on market failure resulted in major social costs. The extent and consequences of the alleged market imperfections were not verified against experience, while the actual interventions and their dosage had little or no logical connection to the presumed distortions. The implicit assumption was, in addition, that the government possessed all the information required as well as a complete set of institutions to enforce the policies, while no political economy deviations contaminated the objective functions of the authorities. These issues have more than a mere theoretical importance. The OSU school claimed that an incorrect diagnosis of the reasons for lack of access to credit and optimistic expectations about the

[19] As is the case with financial services, these costs are higher the more scattered the recepients of the services and the poorer the development of the infrastructure, as well as the greater the difficulty to recruit trained workers for jobs in remote areas. For successful solutions of some of these problems in Indonesia, see Chaves and Gonzalez-Vega (1993).

absence of government failure led not an inappropriate design of the cure and was responsible for both the failure of the interventions and the substantial social costs that they imposed.

III. Policy Failures

Despite growing concern about problems in RFMs in developing countries, little systematic research and analysis were undertaken until the mid-1960s, when AID funded the first OSU efforts.[20] Nevertheless, by 1972-73, the AID worldwide "Spring Review of Small Farmer Credit" assembled substantial evidence of policy failures from some 60 countries (Rice, 1973). To a significant extent, such failures reflected an inadequate diagnosis of the problem and the erroneous assumptions underlying the actual policy choices.

Subsidized small farmer credit programs and specialized agricultural development banks were created under the following assumptions:

(a) All producers need loans all of the time.[21]

(b) Informal sources of loans are inadequate and too expensive.

(c) Small producers cannot save and are not interested in deposit facilities.

(d) Small farmers cannot pay market interest rates.

---

[20] Policymakers were confident that most of the answers to these problems could be found in the industrialized countries and transferred to the developing countries. Actually, many of the experts going around the world were from the Farmers' Home Administration or the cooperative from credit system in the United States (Adams, 1987).

[21] One operational implication of this assumption was that "credit demands" could be derived by multiplying the number of hectares to be cultivated with each crop by the expected cost per hectare (from typical farm budgets).

(e) Small farmers will not use the loan funds profitably, unless they are strictly supervised.

The implicit general assumption was that credit, particularly when it is subsidized, is a powerful instrument to solve all of the problems faced by farmers: credit as a panacea.

In response to these assumptions, traditional credit programs:

(a) focused on loans, rather than on financial intermediation, and completely ignored deposit mobilization;

(b) sought to replace with formal institutions (rather than complement) the informal sources of funds;

(c) insisted on targeting loans to particular clientele and for specific purposes, frequetly without much concern for risk;

(d) attempted to strictly supervise (constrain) the use of loan funds; and

(e) charged interest rates that incorporated a substantial implicit subsidy.

These views and policies were an important component of the interventionist strategies generally adopted for financial markets in most developing countries. These markets were heavily regulated, in order to control both the prices and the amounts of financial transactions and to promote some sectors of economic activity at the expense of others. These policies not only were eventually not sustainable, but failed to promote growth, efficiency, or social equity.

In the early 1970s, Shaw and McKinnon and their followers began to chronicle and explain the negative consequences of financial repression. The OSU approach to RFMs matured in parallel to the views on finance and development pioneered by Shaw and McKinnon. Both visions shared a common perspective on the basic functions of finance and on the negative consequences of repressive policies. However, while the Stanford school focused on macroeconomic stabilization and global financial liberalization, OSU was particularly concerned with the provision of financial services to the rural population and other marginal clientele.[22]

Thus, while recognizing the negative implications of repressive policies on standard aggregate efficiency and on financial deepening, the most important OSU contribution was to explain why and to illustrate how these policies had not been able (and could not be able) to achieve their ostensible "social" objectives, but had actually been harmful for most marginal clientele (Gonzalez-Vega, 1991). Thus, not only had substantial social costs in terms of efficiency been incurred but, more importantly from the OSU perspective, these policies had not been able to improve the access to financial services for most of the rural population of the developing world. In many instances policies not only had failed, they had made matters worse.

By the early 1970s, the record already overwhelmingly showed that most of the credit programs designed from this perspective were not meeting their own objectives.[23] The pri-

---

[22] OSU researchers were particularly unrelenting in urging the authorities not to leave RFMs out of aggregate financial reforms. They argued that, partial reforms that kept agricultural credit programs heavily subsidized, in the midst of an otherwise liberalized maket, further increased disincentives for formal financial intermediaries to serve marginal clientele (Araujo and Meyer, 1987).

[23] Most of this evidence was assembled in the twenty volumes of the *Spring Review of Small Farmer Credit* (1973), organized by the Agency for International Development, during 1972-1973. See Donald (1976) for an analytical account of the various activities associated with the Review. Additional evidence was compiled in a World Bank agricultural credit sector paper (1975) and during a conference at the Food and Agriculture Organization in

mary goal of improving access to formal credit was being poorly met. Despite the massive flows of funds disbursed (mostly from international donors), access to credit remained severely limited. Only a small proportion of all farmers around the developing world had received formal loans. By the mid-1970s, on the average only 15 percent of the farmers in Asia and Latin America and 5 percent of the farmers in Africa had ever received credit from any institutional source (Donald, 1976).

The original goal of reducing the cost of borrowing had not been attained, either, except for a few large producers. In particular, attempts to target credit had increased transaction costs not only for lenders but mostly for borrowers (Adams and Nehman, 1979; Cuevas, 1984; Graham and Cuevas, 1984; Gonzalez-Vega and Gonzalez-Garita, 1987). Targeting had also reduced the quality of credit services, because disbursements became untimely and insufficient and procedures were rigid and onerous. For most producers, the non-interest portion of borrowing became the most important component of the cost of funds. Thus, subsidized credit turned out to be quite expensive, particularly for small borrowers. [24]

Rome (1975). It became increasingly apparent that most of the policy failures observed were common to many countries. OSU not only rigorously documented specific instances of, but attempted to provide an explanation of the reasons for these policy failures.

[24] High transaction costs have important regressive consequences. Consider two borrowers who are charged 20 percent interest on their loans. In addition, their transaction costs (e.g., the cost of trips to the bank branch) are \$ 40. For one (small), who borrows \$ 100 and pays \$ 20 dollars of annual interest, the total cost of funds is \$ 60 (equivalent to 60 percent of the loan amount). For the other (larger), who borrows \$ 10,000 and pays \$ 2,000 in interest, the total cost of funds is \$ 2,040 (equivalent to 20.4 percent of the loan). Rather than concentrate on interest rates, those concerned with distribution should focus on transaction costs.

Widespread, low-cost access to deposit facilities (although not an objective of these strategies) was confined to a few countries, as well.

The programs had also failed in their attempt to promote the growth of output and of productivity. Even when there had been increases in agricultural production, they had not been achieved in a cost-effective manner (Braverman and Guasch, 1986). Moreover, contrary to ostensible intentions, subsidized interest rates had had regressive implications for the distribution of wealth in the rural areas. Small farmer loan portfolios showed much concentration (Adams and Tommy, 1974). A few among the numbers of borrowers (typically 10 percent) captured the largest portion (typically 80 percent) of the funds disbursed and the associated subsidies (Gonzalez-Vega, 1977).

The OSU explanation of this failure to achieve the desired results focused on:

(a) the incorrect assumptions underlying the policy choices,

(b) the unrealistic expectations about the capacity of credit programs to achieve several (most) of the proposed goals, and

(c) the negative impact of the policy combinations embraced upon the viability of the financial intermediaries selected to carry out those programs.

Evidence from the field allowed the OSU Program and other researchers to question the assumptions of a lack of demand for deposit services in the rural areas and among the poor as well as to document the resourceful ways in which informal markets solved the problems of lack of access to credit and deposit facilities.[25]

---

[25] Research in Africa (Miracle, 1980; Roberts, 1972) and Asia (Lee, Kim, and Adams, 1977; Ong, Adams, and Singh, 1976) showed how substantial wealth was devoted to reserves, reflecting untapped opportunities for deposit mobilization. Similarly, valuable services

It became increasingly clear that subsidized credit was a particularly weak instrument (at best, not cost-effective; at worst, incapable) to achieve most of the desired objectives: the promotion of particular activities (or the adoption of technological changes), a redistribution of income in favor of small producers, and the elimination of the exploitation that presumably characterized informal financial markets.

Subsidized credit is not a cost-effective means for the promotion of particular activities. Credit, subsidized or not, cannot make unprofitable investments profitable. Loans do not create (inexistent) technologies, do not make the required (unavailable) inputs accessible, do not build the (missing) infrastructure (roads, storage facilities), do not create the (absent) markets, do not engender comparative advantages, and do not reduce yield uncertainty. In particular, credit does not modify **relative** (social and private) profitabilities or create investment opportunities that do not exist. Credit merely transfers generalized purchasing power to borrowers who still face the same investment options. Given the fungibility of funds, it is difficult to ascertain the marginal utilization of this additional purchasing power by economic agents typically with multiple sources and uses of funds (Von Pischke and Adams, 1980). The limited additionality frequently induced by these credit programs sharply increased their cost/benefit ratios. Similarly, credit interventions cannot efficiently correct for the negative impact of erroneous non-financial policies. Moreover, while all producers are harmed by repressive (e.g., price) policies, only a small proportion have access

---

provided by moneylenders, rotating savings and credit associations, and other informal intermediaries were documented (Bouman, 1977). Rather than as a manifestation of market failure, informal transactions were viewed by OSU as indicative of potential market solutions of the access problem.

to the compensating loans, with a negative impact on equity. Further, credit is a poor instrument to deal with externalities in other markets as well.

On the other hand, subsidized credit is a powerful instrument for the redistribution of wealth.[26] Unfortunately, such redistribution is inevitably regressive (Gonzalez-Vega, 1984b). First, to become a beneficiary of the subsidy a producer must become a borrower. Access to subsidized loans is, however, highly restricted and, as a consequence, the largest number of producers are excluded from the subsidy. Access is typically more difficult for the smallest, the poorest, and those dispersed in remote areas. Second, the amount of the subsidy is directly proportional to the size of the loan, while there is a strong correlation between loan size and previous wealth. The smallest producers do not get loans-cum-subsidies; the largest borrowers get the largest free transfers of purchasing power. Third, typically the incidence of the implicit tax used to fund the subsidy (e.g., the inflation tax) is also regressive. Fourth, as predicted by the iron law of interest rate restrictions, when the rate of subsidy increases, the size of loans for non-rationed borrowers also increases, but the size of loans for rationed borrowers declines (Gonzalez-Vega, 1984a). Fifth, elegibility requirements substantially increase highly regressive borrower transaction costs (Gonzalez-Vega and Gonzalez-Garita, 1987). Thus, from a conceptual perspective it is almost impossible to improve the distribution of wealth through a credit subsidy. In practice, credit usually allo-

---

[26] When interest rates do not reflect the social opportunity cost of the claims on resources transferred, there is an implicit subsidy. The magnitude of this subsidy can be substantial. In the mid-1970s, for example, the subsidy granted to agricultural borrowers was equivalent to 4 percent of the GDP in Costa Rica (Vogel, 1984a) and in Brazil (Araujo and Meyer, 1987). With consented default, the implicit subsidy is even greater (Aguilera-Alfred and Gonzalez-Vega, 1992).

cated in return for political favors has benefitted mostly larger and influential farmers (Ladman and Tinnermeier, 1981; Gonzalez-Vega and Mesalles, 1993).

As interest rates became increasingly negative in real terms, beginning in the mid-1970s most of the policy dialogue among researchers, the donor community, and policymakers in developing countries was centered on the cost of credit. Arguments for subsidized credit in RFMs were numerous and convictions about its desirability deeply held. Debates about financial policies had to be won, moreover, not in the lecture halls, but in the legislatures. The strong defense of these subsidies was not based on the yet unwritten papers on market failure by careful scholars such as Stiglitz or Townsend, but by a mesh of vested interests of those in government and those who had handsomely benefited from these programs.[27] Given the difficulty of the battle, the OSU Program focused on these policy issues, not in blind defense of supply and demand, but from a clear understanding --obtained first hand-- of the shortcomings of these policies in the field and their inability to promote their alleged objectives. By the late 1970s and early 1980s, furthermore, the open crises of most traditional agricultural credit programs forced most countries into policy reforms.[28]

---

[27] That enlightened interventions be backed by an explicit account of the market failure that underpins it is a necessary condition for success (Besley, 1992) These political economy considerations raise serious doubts, however, about how likely this careful design is in practice.

[28] Reforms of agricultural credit programs were prompted mostly by their loss of access to donor funds, fiscal transfers, and central bank rediscounting. On the other hand, the decapitalization of many rural financial intermediaries and the collapse of several agricultural development banks highlighted the importance of financial viability. The most dramatic sign of the failure of these policies was that the sharp decline in formal agricultural credit flows that followed had little or no effect on agricultural output (Adams, 1987).

Much of the new vision of RFMs pioneered by OSU was summarized at the Colloquium on Rural Finance held in Washington, D.C. in 1981 with ample participation of the donor community (Adams, Graham, and Von Pischke, 1984). Among the main lessons presented at that time were:

(a) That traditional credit programs had distributed interest-rate subsidies regressively and had had a weak impact on loan-use decisions through targeted loans. The most important consequence of targeting had been distributive (who had benefitted from the subsidized transfers of generalized purchasing power). Otherwise, targeting had merely increased both lender and borrower transaction costs. On the other hand, if not repressed, financial markets can play a useful role in helping allocate resources more efficiently.

(b) That non-financial policies and other dimensions of the environment (including the existing physical and institutional infrastructure) that influence the creditworthiness (profitable opportunities that create capacity to repay) and savings capacity of RFM clients are critical for the success of financial intermediaries.

(c) That the traditional methods for evaluation of the impact of credit generally overestimated the benefits and underestimated the costs, due to fungibility, the difficulty in measuring additionality, and costs external to the borrower.

(d) That deposit mobilization provides a value service to firm-households, for which there is a strong demand in RFMs, and is critical for the resource allocation function of financial intermediation.

(e) That most informal lenders provide valuable financial services at a reasonable cost to borrowers.

A menu of OSU policy recommendations that went beyond interest rate revisions came out of this colloquium. These included global financial reform as a necessary condition for RFMs to operate effectively; emphasis on the importance of deposit mobilization (Vogel, 1984b); a shift in the focus for the evaluation of credit projects from measurement of what happens at the borrower level, to an assessment of the performance of the financial institution (David and Meyer, 1980); an increased appreciation of the merits of (endogenous) informal financial arrangements (credit programs should not attempt to replace or punish moneylenders; Bouman, 1984); and the need to devote resources to the development of cost-effective financial technologies to reach marginal clientele.

IV. The Importance of Institutional Viability

On the basis of a perceived market failure, the governments of most developing countries were not slow to intervene in their RFMs, in order to correct for the pressumed market imperfections and to pursue a host of productive and social objectives. In addition to the social costs of these interventions already described, important deadweight losses were inflicted in terms of ineffective economic organization (Myint, 1985). That is, these policy-induced distortions repressed the normal development of the institutions that would otherwise have gradually evolved to allow for increasing access to financial services by marginal clientele . There are two dimensions to these costs. On the one hand, the existing institutions utilized to implement these programs were eventually destroyed, while those specifically established for this purpose never had a chance to become viable. On the other hand, the monopoly power granted to some of these institutions (through restrictions on entry) or their unfair market practices suppresed the development of private organizations that would have been created to provide the missing services, as the size of the market grew and transaction costs declined with the development of the physical and institutional infrastructure and the provision of a better organizational framework for the operation of markets.[29]

From the perspective of the OSU school, the most severe deficiency of the traditional rural financial organizations created from the protectionist perspective has been their lack of institutional viability. A viable financial institution is self-sustaining and is valued by its clientele. This requires an organization that is able to cover all of its costs, provides high quality services, reaches increasing numbers of customers, is dynamic in providing new financial services and products, and actively searches for ways of improving its efficiency, as reflected by the magnitude and degree of dispersion of the transaction costs incurred by its depositors, its borrowers, and by the financial intermediary itself. Viable institutions possess credibility and are able to mobilize deposits from the public, collect their loans, and retain good management and staff (Meyer, 1988; Gonzalez-Vega, 1990, Rhyne and Otero, 1991).

The lack of viability of many rural finance organizations has been reflected by the steady reduction of their relative importance within the financial sector of many developing countries, as most of them have not been able to increase and, in many instances, even to

---

[29] This was the case when the banks were nationalized or, as in the case of Costa Rica, when only the state-owned banks were allowed to mobilize deposits (Gonzalez-Vega and Mesalles, 1993). Unfair practices by subsidized organizations may also outcompete more efficient rivals, only to disappear soon because of their lack of self-sufficiency (Graham, Nagarajan and Ouattara, 1993).

sustain the flow of their loanable funds, in real terms. Rather, their lending capacity has sharply decreased over time, as they have not protected their portfolios from inflation, have not vigorously collected their loans (to be able to grant new credit), have not aggressively mobilized local resources (to be able to widen the range of their services), and particularly, as they have lost the support of their clientele, in view of the poor quality of their services and the high transaction costs that they impose on them. Moreover, as their institutional weaknesses have become increasingly evident, they have lost the support of the international donors as well and, as a result, their loanable funds have substantially declined.[30]

Given their dependency on political agencies for the supply of their funds, there has been a great deal of intrusion in the operations of these lenders, in the sense that the decisions about who to lend to, what to lend for, and in what terms and conditions to lend have not been made by the intermediary (agent), but have been imposed from the outside by the sources of the funds (principals). The criteria used have not necessarily been compatible with the financial viability of the organizations (Poyo, Gonzalez-Vega, and Aguilera-Alfred, 1993).

The concern with viability springs from a clear recognition of scarcity. The experience of the 1980s has shown that foreign donor programs and fiscal budgets are not infinite sources of funds for rural financial institutions (Gonzalez-Vega, 1989). This is most important from an outreach perspective. There is little hope for reaching the numbers of rural firm-households (or the poor) who are potential borrowers without self-sufficient financial

[30] Ironically, their lack of viability has reflected, in large part, their strong dependency on outside funding, from donors, governments, and central banks. During the 1980s they learned that it is not possible to obtain steady and reliable funding from these sources.

institutions (Rhyne and Otero). Otherwise, only select groups will benefit from the subsidized programs. The amounts required are well beyond the ability and willingness of governments and donor agencies. Thus, viability matters for both efficiency and equity considerations.

From the OSU perspective, financial viability not only matters a lot, but it is also a useful conceptual hub from which to examine the importance of policies and procedures, technologies, and organizational design. By clustering all of these dimensions of an intermediary's performance around this hub, it is possible to more fully understand why all of these components are intimately linked (interact and reinforce each other) and why success is the outcome of particular combinations of these elements. While the specific combination that is appropriate in each case must be a function of initial conditions (stage of development, previous macroeconomic history, social and cultural factors) as well as economic and political opportunities, the OSU researchers are constantly surprised by the commonality of elements in successful (as well as unsuccessful) blends of these components. For these purposes, sustained practical experience has proved to be an effective teacher. Such common traits have allowed the OSU school to offer some basic generalizations (principles) that can serve as a guide for theory, policymaking, and practice.

The starting point must be a clear understanding of what it is that financial services do for firm-households. Additional command over resources, through loans, allows them to take advantage of economic opportunities. Secure places to store their assets allow them to manage their reserves and face uncertainty, as well as to accumulate purchasing power to take advantage of future investment opportunities. Access to open lines of credit gives them additional security. These dimensions define the quality of financial services for them. Farmers are interested not only in access to sufficient purchasing power to take advantage of their opportunities; they also want the funds to be timely disbursed, the loan procedure to be easy and flexible, the amortization schedule to adequately correspond to his cash flow, and the loan term to be sufficiently long. If this is not the case, the farmer will not be able to fully take advantage of available opportunities. The potential borrower wants, in particular, access to a financial intermediary that offers timely, reliable, encompassing and, above all, permanent services.[31]

The most important reason why a concern with viability matters is because it elicits appropriate incentives. For example, viability and low default rates are intimately related. Clearly, poor loan recovery destroys the viability of the intermediary. What must be understood, however, is that viability influences, in turn, repayment discipline. It is not easy to establish creditworthiness. For this purpose, most important for the lender is to acquire information about the potential borrower. This information is accumulated through experience and a continued relationship with a particular client. Once reputation as a good borrower has been established, it is a valuable intangible asset for the client. Clearly, this asset will be more valuable if the credit program is permanent rather than transitory. This asset will be more valuable, if the credit program is reliable, as the expected losses from lack of access to credit when it is needed can be very high. The borrower's main interest is, there-

[31] This perspective is the secret behind successful financial programs for poor clientele. As Patten and Rosengard (1991) claim, "the rural populace needs flexibility and discretion to respond to continually changing and highly localized circumstances, and requires permanent access to stable institutions, capable of executing essential banking functions" (p. 6).

fore, to develop a long-term relationship with a permanent lender. This is, indeed, the nature of the implicit contract with the informal moneylender. Fear of severing this contract will keep borrowers away from non-permanent formal credit programs.

When rural financial institutions lack viability, their survival is questioned by many, including their own clientele. Increasing levels of loan default evidence their loss of support. Default is the signal that the borrowers are no longer interested in the survival of the institution. Since they anticipate it not to be able to provide a permanent service, the expected value of their relationship with the intermediary is low. In the absence of vigorous collection efforts, demonstration effects (if those who do not pay get away with it, why should I pay?) make theirs a self-fulfilling prophecy.

This is one of the most important ways in which interest rates and loan default are linked. The recent literature has emphasized the impact of high interest rates on the lender's profits, through adverse selection (Stiglitz and Weiss, 1981). It has raised concerns about interest rates becoming too high in real terms. In the environment of the traditional credit programs, with highly negative real rates of interest and inadequate intermediation spreads, however, too low rates of interest actually induce default. The intermediary's losses are perceibed by the borrowers as a signal of the lack of permanency of the institution and repayment declines. Risk of default may not be merely a direct function of interest rates, therefore, but may actually follow a U-shaped curve. Images of lack of viability for too low rates induce default, while adverse selection at too high rates may also increase the riskiness of the portfolio. While ceilings that keep interest rates negative in real terms may thus contribute to increased default, in the case of high rates the appropriate policy intervention may be to eliminate moral hazard on the part of the banks, through effective prudential regulation and supervision (McKinnon, 1989; Chaves and Gonzalez-Vega, 1992).[32]

Concern over interest rate policies has reflected as well attention to their impact on the viability of financial organizations. Effectively earned (rather than simply accrued) interest must cover expected inflation, operating costs, and reserves against losses from default, if decapitalization is to be avoided. Beyond this, concern with interest rates reflects a recognition of their influence on the behavior of all market participants. Too low rates of interest discourage depositors, allow poor investments by borrowers, attract rent-seekers, and may underprice the cost of capital. They also create a paternalistic culture within financial organizations that is not conducive to viability.

Concern with targeting is also linked to preoccupations with viability. The purpose of targeting the end use of funds has been frustrated by fungibility, but both targeting and excessive borrower supervision have increased lender and borrower transaction costs. Higher lending costs have further reduced viability, while very high borrowing costs have effectively excluded many potential (small) borrowers from access to formal loans. Evidence in the field suggests that subsidized interest rates frequently lead to more than proportional increases in borrower transaction costs, particularly for small clients, as a consequence of the rationing mechanisms that become inevitable, and thus the total cost of the funds increases when rates are lowered (Gonzalez-Vega and Gonzalez-Garita, 1987). Furthermore, targeting and other requirements on borrowers reduce the quality of the services received and, thereby, decrease the value of the relationship with the intermediary. On the other

[32] Prudential supervision would not prevent, of course, the rationing behavior of banks.

hand, targeting reduces the scope for already specialized agricultural lenders to diversify their loan portfolio and decreases their degrees of freedom in screening applicants. Evidence from the field indicates that the rigidity introduced by targeting in the risk-management activities by the lender increases default (Aguilera-Alfred and Gonzalez-Vega, 1993).

The emphasis on deposit mobilization has also been intimately linked to the concept of viability. Given a continuous demand for safe and convenient means to manage liquid funds and accumulate reserves, many more firms and households can be served through deposit facilities than through credit.[33] Deposits provide an entry point into formal finance largely under the client's control. On the other hand, while small, short-term loans are usually provided by informal sources at low transaction costs, formal loans are demanded in response to special opportunities and require demonstration of creditworthiness (Von Pischke, 1978). A deposit connection with the intermediary will facilitate the eventual access to loans, by providing information to the lender, creating a basis for mutual trust, and facilitating the accumulation of a downpayment (the deposit funds) as the borrower's contribution (deductible) in the investment project. Given the nature and extent of these economies of scope for the intermediary, deposit mobilization is critical for financial viability. Moreover, deposits increase the intermediary's independence from outside "principals" (and free it from the whims of donors and politicians) and protects it from rent-seeking and polit-

[33] Most OSU researchers believe that, once both deficit and surplus units are taken into account, substitution effects and the positive income effect for deficit units dominate the negative income effect for surplus units and savings increase with interest rates (Hicks). They also believe, however, that the interest elasticity of the composition of wealth is much greater and that what really matters is the impact of deposit mobilization on the quality of the stock of assets in the economy (McKinnon, 1973; Fry, 1978).

ical intrusion, while depositors force the organization to higher standards of financial discipline (Poyo, Gonzalez-Vega, and Aguilera-Alfred, 1993).[34]

In summary, even when created with the best of intentions, in practice the traditional rural financial institutions designed from the protectionist perspective found it very difficult to target subsidized loans, postpone concerns about creditworthiness and risk management, and remain financially viable at the same time. Financial viability is critical, however, not only from the perspective of an efficient utilization of society's scarce resources, but also as a means to widely achieve "social" goals. From this perspective, the OSU school has emphasized institutional viability as a key component of any evaluation of RFM programs.[35]

V. Access, Transaction Costs, Technologies and Organizations

The failure of the subsidized and targeted credit programs designed from the earlier interventionist perspective has been well documented by OSU researchers and others. To the extent to which this failure has reflected inadequate policies and regulations, policy reform has been needed.[36] If one of the major objectives of such reform is (as the OSU Pro-

---

[34] This beneficial role of deposit mobilization requires, however, adequate prudential regulation and supervision (Chaves and Gonzalez-Vega, 1992).

[35] The implicit assumption is that, in a viable financial institution in which loans are demanded and repaid and savings deposited, financial intermediation is contributing to improved welfare and, to the extent to which the poor have access to the institution, to poverty alleviation (Rhyne and Otero, 1991). The key remaining question is how to improve the access of the poor to these financial services.

[36] In general, with these reforms the role of the state has shifted from the control of prices and quantities (in substitution of market forces) to the promotion of the stability of the monetary system and the solvency of intermediary institutions (including the protection of depositors from the potentially opportunistic behavior of depository institutions).

gram believes it should be) to facilitate access for large segments of the population to a wide set of financial services, including not only loans but also deposits and facilities for the transfer of funds, then the critical question is: what else is needed? Although suitable policies are a necessary condition, they are not sufficient to rapidly increase access to financial services by marginal clientele.[37]

OSU researchers believe that improved access to financial services is determined by changes in the environment in which financial institutions operate, changes in the policies that regulate their behavior, changes in their organizational design and operational procedures, and changes in financial technologies (Gonzalez-Vega, 1986a). Research at OSU during the 1980s attempted to gain a better understanding of these other determinants of the successful expansion of access.

The point of departure has been a clear recognition that the provision of financial services is not an easy task. It is particularly costly when the clients are small, heterogeneous, and dispersed in not densely populated areas. To some extent, these difficulties are not unique to the provision of financial services: it is generally not easy to provide education or health in remote, sparsely populated areas. In addition, finance is particularly difficult because of the intertemporal nature of the transactions involved. The promise to repay in the future, in exchange for purchasing power now, may not be fulfilled. Financial markets are about the management of this risk. The ability to successfully screen potential borrow-

[37] Earlier experience has shown that in a highly financially repressed environment it is almost impossible for any institution to attain this goal in any significant scale. Policy reform is a necessary condition in this sense. It does not mean that there are no important roles for the state to play, the specifics of which will be determined by the particular initial conditions.

ers, monitor the actions of those who receive loans, and enforce contracts implies the choice of appropriate financial technologies. These technologies are intensive in the use of information and in mechanisms for the enforcement of contracts. Major developments in financial theory, associated with agency problems and asymmetric information, have provided useful explanations of the complexity of these lender-borrower relationships.[38]

Risk management through signalling, screening, monitoring, and collecting efforts are at the core of the RFMs problem. In past strategies, perceptions of risk and development of the tools for dealing with information and risk were not part of the available technologies or of the organizational culture of the traditional credit programs. Not only are these difficult tasks, but under financial repression technological innovation was retarded. In part for these reasons, sufficiently cost-effective technologies to provide financial services to marginal clientele are not widely available and have been successful in only a few places.[39]

Information use and the enforcement of contracts result in transaction costs for all market participants. These costs have major consequences for resource allocation. What matters, for production and investment decisions, is the total cost of the funds for borrowers, including both interest and transaction costs. What matters to savers is the net return on deposits, after transaction costs are substracted from interest earned. What matters for the intermediary is the extent to which its spread covers the costs of funds mobilization and the

[38] For some excellent examples of the application of these theoretical developments, see the papers for the Symposium on Imperfect Information and Rural Credit Markets, in the September, 1990 issue of *The World Bank Economic Review*, as well as many of the papers for the Conference for which this paper was prepared.

[39] For a discussion of examples of the successful adoption of appropriate technologies in Indonesia, see Chaves and Gonzalez-Vega (1993).

costs and risks of lending and leaves a profit that allows for capitalization and growth. The OSU school claims that the best indicator of financial progress is a reduction in the level and dispersion of the transaction costs incurred by all, actual and potential, market participants. From the perspective of this conceptual framework, the measurement of transactions costs becomes an important task in the evaluation of RFMs.

During the 1980s, OSU researchers measured these transaction costs and explored alternative explanations of their magnitude and behavior.[40] In general, the production of financial services displayed constant or increasing returns to scale. Cost complementarities between loans and deposits were observed in most cases. This supports the view that deposit mobilization increases financial viability. Specialized government banks showed high loan administration costs in all countries, reflecting both differences in the clientele served (technology) and the agency costs resulting from deficiently defined property rights.

Similarly, the transaction costs of borrowing and depositing were measured in several countries.[41] The observations clearly reflect the very regressive distributional effects of borrowing transaction costs. Results from econometric exercises consistenly reported a

---

[40] Bank cost functions were estimated in Bangladesh (Srinivasan, 1988), Honduras (Cuevas, 1984), the Dominican Republic (Cuevas and Poyo, 1986) and Mexico (Chavez-Presa, 1988). A profit function approach was used in Honduras (Camacho, 1988). Cost-allocation exercises were also undertaken in the Philippines (Untalan and Cuevas, 1988), Togo and Niger (Cuevas, 1987), and Costa Rica (Gonzalez-Garita, 1987), among others.

[41] Borrower costs were measured in the Philippines (Abiad, 1990), Bangladesh (Ahmed, 1982), Honduras (Cuevas, 1984), Costa Rica (Gonzalez-Vega and Gonzalez-Garita, 1987), Niger (Graham, Cuevas, and Negash, 1986) and elsewhere. Reductions in depositor transaction costs were found to be the most important determinant of the success of deposit mobilization by the Agricultural Development Bank in the Dominican Republic (Guerrero). Khalily (1987) showed the extent to which the expansion of the banking network in Bangladesh reduced transaction costs for depositors.

negative elasticity between transaction costs per unit and loan size. A 10-percent increase in loan size typically reduces borrowing transaction costs by 6-7 percent. The results also clearly indicate a trade-off between borrower transaction costs and interest rates. Thus, increases in interest rates may not necessarily increase the total costs of borrowing by the same amount of the rate increase.[42] In the Dominican Republic (Guerrero, 1988), reductions in transaction costs for savers were the most important determinant of the success of deposit mobilization in the rural areas.

Questions about organizational design emerged in the field as a consequence of second-generation problems encountered during the implementation of recommended policy reforms and the adoption of new financial technologies. This was the case, for instance, with respect to deposit mobilization. OSU experiments in several countries confirmed the existence of a strong demand for deposit facilities in the rural areas.[43] Agricultural development banks, with a large established network of branches, as well as rural credit unions became important vehicles for the mobilization of local deposits, at relatively low marginal costs for the intermediary, and with a substantial reduction of the depositor's transaction costs. Introduction of the new service was not easy, however, given the internal system of incentives within these organizations. Rewards had to be designed for the management and staff of the bank, on the one hand, or the membership of the credit unions, on the other,

---

[42] In Costa Rica, transaction costs accounted for 46 percent of the total cost of borrowing on the average. In the case of small loans, however, this proportion can increase significantly. Discussions focusing only on interest rates are clearly misplaced.

[43] See Burkett and Vogel (1987) on Peru, and Vasquez (1986) on the Dominican Republic.

in order to obtain their cooperation. The idea that depositors will introduce additional discipline in these organizations was amply confirmed (Poyo, Gonzalez-Vega, and Aguilera-Alfred, 1993).

On the other hand, emphasis on deposit mobilization eventually posed serious questions about prudential regulation and supervision, in order to constrain opportunistic behavior (Chaves and Gonzalez-Vega, 1992). In several countries, OSU projects have sponsored strengthening of prudential supervision, in general, and the extension of the authority of the superintendent of banks to cover non-bank intermediaries, such as credit unions.

The importance of organizations has been evident from both observations from OSU projects and the evaluation of other experiences (Chaves and Gonzalez-Vega, 1993). The design of organizations is vital because, in the last instance, it will determine the performance of the financial institution. Although adequate financial policies and technologies are always necessary, they will not be adopted and properly implemented if they do not respond to the interests of the owners, management, and staff of the organization. In the end, performance depends on the choices made by individuals. Organizations are important because they define the structure of incentives that influence those choices and the constraints, in addition to the traditional ones, that shape their behavior. A successful performance, given existing constraints, will occur when it is in someone's best interest.

Over three decades, faculty, students, and consultants of the Rural Finance Program at The Ohio State University have attempted to understand both the constraints and the incentives that influence access to financial services by marginal clientele and to put this knowledge to work in efforts to improve the performance of rural financial markets.

References

Abiad, Virginia (1990), "Borrower Transaction Costs and Credit Rationing in the Philippines," Diliman: University of the Philippines, Ph. D. dissertation.

Adams, Dale W (1971), "Agricultural Credit in Latin America: A Critical Review of External Funding Policy," *American Journal of Agricultural Economics*, Vol. 53, pp. 163-172.

Adams, Dale W (1987), "Evolution in Understanding of the Role of Finance in Rural Development." Columbus, Ohio: Unpublished paper prepared for Claudio Gonzalez-Vega (ed.), *Financial Services for Rural Development*, forthcoming.

Adams, Dale W and Douglas H. Graham (1981), "A Critique of Traditional Agricultural Credit Projects and Policies," *Journal of Development Economics*, Vol. 8, pp. 347-366.

Adams, Dale W and G. I. Nehman (1979), "Borrowing Costs and the Demand for Rural Credit," *Journal of Development Studies*, Vol. 15, pp. 165-176.

Adams, Dale W and Joseph L. Tommy (1974), "Financing Small Farms: The Brazilian Experience 1965-69," *American Finance Review*, Vol. 35, pp. 36-41.

Adams, Dale W and J. D. Von Pischke (1992), "Microenterprise Credit Programs: Deja Vu," *World Development*, Vol. 20, No. 10, pp. 1463-1470.

Adams, Dale W, Douglas H. Graham and J. D. Von Pischke, eds. (1984), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press.

Agency for International Development (1973), *Spring Review of Small Farmer Credit*, 20 volumes, Washington, D.C.: Agency for International Development.

Aguilera-Alfred, Nelson and Claudio Gonzalez-Vega (1992), "Valoración de los Subsidios en el Crédito Dirigido: Un Análisis de Contratos de Opción," in Claudio Gonzalez-Vega (ed.), *República Dominicana: Mercados Financieros Rurales y Movilización de Depósitos*, Santo Domingo:Programa Servicios Financieros Rurales, Ohio State University.

Aguilera-Alfred, Nelson and Claudio Gonzalez-Vega (1993), "A Multinomial Logit Analysis of Loan Targeting and Repayment at the Agricultural Development Bank of the Dominican Republic," *Agricultural Finance Review*, forthcoming.

Ahmed, Zia U. (1987), "Transaction Costs in Rural Financial Markets in Bangladesh: A Study of a Rural Credit Market," University of Virginia: Ph.D. dissertation.

Araujo, Paulo F.C. de and Richard L. Meyer (1987), "Dos Décadas de Crédito Agrícola Subsidiado en Brasil," in Dale W Adams, Claudio Gonzalez-Vega and J. D. Von Pischke (eds.), *Crédito Agrícola y Desarrollo Rural: La Nueva Visión*, San Jose, Costa Rica: Ohio State University.

Bauer, Elizabeth K., ed. (1952), *Proceedings of the International Conference on Agricultural and Cooperative Credit*, Berkely: University of California.

Besley, Timothy (1992), "How Do Market Failures Justify Interventions in Rural Credit Markets?" Washington, D.C.: unpublished paper prepared for the AGRAP Division of The World Bank.

Bhagwati, Jagdish N. (1971), "The Generalized Theory of Distortions and Welfare," in Jagdish N. Bhagwati et al (eds.), *Trade, Balance of Payments, and Growth: Papers in International Economics in Honor of Charles P. Kindleberger*, New York: North Holand Publishing Co.

Blair, Harry W. (1984), "Agricultural Credit, Political Economy, and Patronage," in Dale W Adams, Douglas H. Graham, and J.D.Von Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press.

Bottomley, Anthony (1963a), "The Costs of Administering Private Loans in the Underdeveloped Rural Areas," *Oxford Economic Papers*, Vol. 15, No. 2 (June), pp. 154-163.

Bottomley, Anthony (1963b), "The Premium for Risk as a Determinant of Interest Rates in Underdeveloped Rural Areas," *The Quarterly Journal of Economics*, Vol. 77, No. 4 (November), pp. 636-647.

Bouman, F.J.A. (1977), "Indigenous Credit and Savings Societies in the Third World. A Message," *Savings and Development*, Vol. 3, pp. 95-126.

Bouman, F.J.A. (1979) "The ROSCA: Financial Technology of an Informal Savings and Credit Institution in Developing Economies," *Savings and Development*, Vol. 3, pp. 253-276.

Bouman, F.J.A. (1984), "Informal Credit and Savings Arrangements in Developing Countries: Observations from Sri Lanka," in Dale W Adams, Douglas H. Graham, and J.D. Von Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press.

Bourne, Compton and Douglas H. Graham (1984), "Problems with Specialized Agricultural Lenders," in Dale W Adams, Douglas H. Graham, and J.D.Von Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press.

Braverman, Avishay and J. Luis Guasch (1986), "Rural Credit Markets and Institutions in Developing Countries: Lessons for Policy Analysis from Practice and Modern Theory," *World Development*, Vol. 14, pp. 1253-1267.

Burkett, Paul and Robert C. Vogel (1987), "Microeconomic Foundations of Financial Liberalization: Interest Rates, Transactions Costs and Financial Savings," in Michael B. Connolly and Claudio Gonzalez-Vega (eds.), *Economic Reform and Stabilization in Latin America*, New York: Praeger.

Camacho, Arnoldo R. (1988), "The Impact of Regulation on the Structure and Performance of Financial Markets in Low-Income Countries: The Case of Honduras," Ohio State University: Ph.D. dissertation.

Chaves, Rodrigo A. (1993), "The Behavior of Cooperatives and Other Client-Owned Financial Intermediaries: A Contribution to the Theory of Organizations," Columbus, Ohio: Ohio State University, Department of Agricultural Economics and Rural Sociology, Dissertation Proposal.

Chaves, Rodrigo A. and Claudio Gonzalez-Vega (1992), "Principles of Regulation and Prudential Supervision: Should They Be Different for Microenterprise Finance Organizations?" in Elisabeth Rhyne and Maria Otero (eds.), *Banking and Poverty: The New World of Microenterprise Finance*, forthcoming (Kumarian Press).

Chaves, Rodrigo A. and Claudio Gonzalez-Vega (1993), "The Design of Successful Rural Financial Intermediaries: Evidence from Indonesia," paper presented at the Conference Finance 2000. Financial Markets and Institutions in Developing Countries: Reassessing Perspectives, Washington, D.C.

Chavez-Presa, Jorge A. (1988), "Economies of Scale, Economies of Scope, and Structural Change in the Mexican Commercial Banking System," The Ohio State University: Ph.D. dissertation.

Cuevas, Carlos E. (1984), "Intermediation Costs and Scale Economies of Banking under Financial Regulation in Honduras," Ohio State University: Ph.D. dissertation.

Cuevas, Carlos E. and Jeffrey Poyo (1986), *Costos de Operación y Economías de Escala en el Banco Agrícola de la República Dominicana*, Santo Domingo: Centro de Estudios Monetarios y Bancarios.

Davis, Irving F., ed. (1952), *Selected Readings in Agricultural Credit*, Berkeley: University of California.

David, Cristina C. and Richard L. Meyer (1980), "Measuring the Farm-Level Impact of Agricultural Loans," in John Howell (ed.), *Borrowers and Lenders: Rural Financial*

Markets and Institutions in Developing Countries, London: Overseas Development Institute.

DeAngelo, Harry and Linda DeAngelo (1985), "Managerial Ownership of Voting Rights: Study of Public Corporations with Dual Classes of Common Stock," Journal of Financial Economics, Vol. 14, pp. 33-70.

Demsetz, Harold (1983), "The Structure of Ownership and the Theory of the Firm," *Journal of Law and Economics*, vol. 26, pp. 375-390.

Donald, Gordon (1976), *Credit for Small Farmers in Developing Countries*, Boulder, Colorado: Westview Press.

Food and Agriculture Organization (1975), *Agricultural Credit Through Cooperatives and Other Institutions*, Rome: FAO.

Fry, Maxwell J. (1978), "Money and Capital or Financial Deepening in Economic Development," *Journal of Money, Credit and Banking*, Vol. 10, No. 4 (November).

Esguerra, Emmanuel (1981), "The Redistributive Potential of the Masagana 99 Credit Subsidy," University of the Philippines: MA Thesis.

Gonzalez-Garita, Marco A. (1987), "Eficiencia y Costos de Intermediación Financiera: El Caso del Sistema Bancario Costarricense," San Jose: Academia de Centroamerica.

Gonzalez-Vega, Claudio (1973a), "Interest Rate Policies and Small Farmer Credit Programs in LDCs," in *Spring Review of Small Farmer Credit*, Vol. 19, Washington, D.C.: Agency for International Development.

Gonzalez-Vega, Claudio (1973b), "Small Farmer Credit in Costa Rica: The Juntas Rurales," in *Spring Review of Small Farmer Credit*, Vol. 2, Washington, D.C.: Agency for International Development.

Gonzalez-Vega, Claudio (1976), "On the Iron Law of Interest Rate Restrictions: Agricultural Credit Policies in Costa Rica, and in Other Less Developed Countries," Stanford University, Ph.D. dissertation.

Gonzalez-Vega, Claudio (1977), "Interest Rate Restrictions and Income Distribution," American *Journal of Agricultural Economics*, Vol. 59, pp. 973-976.

Gonzalez-Vega, Claudio (1980), "Interest Rate Restrictions and the Socially Optimum Allocation of Credit," *Savings and Development*, Vol. 4, pp. 5-28.

Gonzalez-Vega, Claudio (1984a), "Credit-Rationing Behavior of Agricultural Lenders: The Iron Law of Interest-Rate Restrictions," in Dale W Adams, Douglas H. Graham, and J.D.Von Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press.

Gonzalez-Vega, Claudio (1984b), "Cheap Agricultural Credit: Redistribution in Reverse," in Dale W Adams, Douglas H. Graham, and J.D.Von Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press.

Gonzalez-Vega, Claudio (1986a), "Strengthening Agricultural Banking and Credit Systems in Latin America and the Caribbean," Rome: Food and Agriculture Organization (FAO), Agricultural Services Division.

Gonzalez-Vega, Claudio (1986b), "The Ohio State University's Approach to Rural Financial Markets: A Concepts Paper," Columbus, Ohio: The Ohio State University, Department of Agricultural Economics and Rural Sociology, Economics and Sociology Occasional Paper No. 1248.

Gonzalez-Vega, Claudio (1989), "Foreign Assistance and Domestic Financial Markets in Developing Countries," Ithaca, New York: Cornell University, W.I. Myers Memorial Lecture.

Gonzalez-Vega, Claudio (1990), "On the Viability of Agricultural Development Banks: Conceptual Framework," Washington, D.C.: InterAmerican Development Bank.

Gonzalez-Vega, Claudio (1991), "Rural Banking in a Hostile Environment: Survival Measures," paper prepared for the Fifth Technical Consultation on the Scheme for Agricultural Credit Development, Rome: Food and Agriculture Organization.

Gonzalez-Vega, Claudio (1992), "Financial Reform and Marginal Clientele in Developing Countries," Bohn: Deutscher Genossenschafts-und Raiffeisenverband E.V.

Gonzalez-Vega, Claudio and Rodrigo A. Chaves (1991), "On the Viability of Microenterprise Credit Programs: Four Case Studies," Washington, D.C.: InterAmerican Development Bank.

Gonzalez-Vega, Claudio and Marco A. Gonzalez-Garita (1987), "Costos de Endeudamiento, Tasas de Interés y Distribución del Crédito en Costa Rica," in Dale W Adams, Claudio Gonzalez-Vega and J. D. Von Pischke (eds.), *Crédito Agrícola y Desarrollo Rural: La Nueva Visión*, San Jose, Costa Rica: Ohio State University.

Gonzalez-Vega, Claudio and Jeffrey Poyo (1986), "Rural Savings Mobilization in the Dominican Republic: Challenges, Accomplishments, and Lessons," Columbus, Ohio: Ohio State University, Department of Agricultural Economics and Rural Sociology.

Gonzalez-Vega, Claudio and Luis Mesalles-Jorba (1993), "La Economía Política de la Nacionalización Bancaria. El Caso de Costa Rica: 1948-1990," in Claudio Gonzalez-Vega and Thelmo Vargas (eds.), *Reforma Financiera en Costa Rica. Perspectivas y Propuestas*, San Jose: Proyecto Servicios Financieros, Academia de Centroamerica and Ohio State Iniversity.

Graham, Douglas H. and Carlos E. Cuevas (1984), "Lending Costs and Rural Development in an LDC Setting: Is Cheap Credit Really Cheap?" *Savings and Development*.

Graham, Douglas H., Carlos E. Cuevas and Kifle Negash (1986), "Rural Finance in Niger: A Critical Appraisal and Recommendations for Change," Report to USAID/Niger.

Graham, Douglas H., Geetha Nagarajan and Korotoumou Ouattara (1993), "Financial Liberalization, Bank Restructuring and the Options for Client-owned Intermediation: Two African Experiences in Rudimentary Financial Markets," paper presented at the Conference Finance 2000. Financial Markets and Institutions in Developing Countries: Reassessing Perspectives, Washington, D.C.

Guerrero, Jose A. (1988), "Determinants of Successful Rural Deposit Mobilization: Banco Agricola in the Dominican Republic," Ohio State University: Master's thesis.

Grossman, Sanford J. and Oliver D. Hart (1982), "Corporate Financial Structure and Managerial Incentives," in John A, McCall (ed.), *The Economics of Information and Uncertainty*, Chicago: Chicago University Press.

Harberger, Arnold C. (1993), "The Search for Relevance in Economics," *The American Economic Review*, Papers and Proceedings, Vol. 83, No. 2, May, pp. 1-16.

Holstrom, Bengt and Jean Tirole (1987), "Theory of the Firm," in R. Schmalensee and R. Willig (ed.), *Handbook of Industrial Organization*, New York: Elsevier Science Publishing Company.

Jaffee, D. and T. Russell (1976), "Imperfect Information, Uncertainty and Credit Rationing," *Quarterly Journal of Economics*, Vol. 90, pp. 651-666.

Jensen, Michael C. and Jerold B. Warner (1988), "The Distribution of Power among Corporate Managers, Shareholders, and Directors," *Journal of Financial Economics*, Vol. 20, pp. 3-24.

Khalily, Md. A.B. (1987), "Determinants of Rural Deposit Behavior in Developing Countries: The Bangladesh Case," Ohio State University: Master's thesis.

Ladman, Jerry R. and Ronald L. Tinnermeier (1981), "The Political Economy of Agricultural Credit: The Case of Bolivia," *American Journal of Agricultural Economics*, Vol. 63, No. 1, pp. 66-72.

Long, Millard F. (1968), "Interest Rates and the Structure of Agricultural Credit Markets," *Oxford Economic Papers*, Vol. 20, No. 2 (July), pp. 275-288.

McKinnon, Ronald I. (1973), *Money and Capital in Economic Development*, Washington, D.C.: Brookings Institution.

McKinnon, Ronald I. (1989), "Macroeconomic Instability and Moral Hazard in Banking in a Liberalizing Economy," in Philip L. Brock, Michael B. Connolly, and Claudio Gonzalez-Vega (eds.), *Latin American Debt and Adjustment. External Shocks and Macroeconomic Policies*, New York: Praeger.

Mellor, John W. (1966), *The Economics of Agricultural Development*, Ithaca, New York: Cornell University Press.

Mesalles-Jorba, Luis (1991), "Pressure Group Influence on Policymaking: The Case of the Costa Rican Nationalized Banking System," Ohio State University: Ph.D. dissertation.

Meyer, Richard L. (1988), "The Viability of Rural Financial Institutions and the System as a Whole," Fourth Technical Consultation on the Scheme of Agricultural Credit Development, Rome: Food and Agriculture Organization.

Meyer, Richard L. and Geetha Nagarajan (1988), "Financial Services for Small and Microenterprises: A Need for Policy Changes and Innovation," *Savings and Development*, No. 4.

Miracle, Marvin P., Diane S. Miracle, and Laurie Cohen (1980), "Informal Savings Mobilization in Africa," *Economic Development and Cultural Change*, Vol. 4, pp. 701-724.

Myint, Hla (1985), "Organizational Dualism and Economic Development," *Asian Development Review*, Vol. 3, No. 1.

North, Douglas C. (1981), *Structure and Change in Economic History*, New York: Norton.

Patten, Richard H. and Jay K. Rosengard (1991), *Progress with Profits. The Development of Rural Banking in Indonesia*, San Francisco: International Center for Economic Growth.

Posner, Richard A. (1977), *Economic Analysis of Law*, Boston: Little, Brown, and Company.

Poyo, Jeffrey, Nelson Aguilera-Alfred and Claudio Gonzalez-Vega (1992), "Informaciòn, Costos de Transacciones y la Ventaja Comparativa de las Cooperativas de Ahorro y Crédito," in Claudio Gonzalez-Vega (ed.), *Republica Dominicana: Mercados Financieros Rurales y Movilizaciòn de Depositos*, Santo Domingo: Programa Servicios Financieros Rurales, Ohio State University.

Poyo, Jeffrey, Claudio Gonzalez-Vega, and Nelson Aguilera-Alfred (1993), "The Depositor as a Principal in Public Development Banks and Credit Unions: Illustrations from the Dominican Republic," paper presented at the Conference Finance 2000. Financial Markets and Institutions in Developing Countries: Reassessing Perspectives, Washington, D.C.

Rhyne, Elisabeth and Maria Otero (1991), "A Financial Systems Approach to Microenterprises," Bethesda, Maryland: GEMINI Working Paper No. 18.

Rice, Edward B. (1973), "History of AID Programs in Agricultural Credit, 1950-1972," in *Spring Review of Small Farmer Credit* (volume 8), Washington, D.C.: Agency for International Development.

Roberts, Richard A. J. (1972), "The Role of Money in the Development of Farming in the Mumbwa and Katete Areas of Zambia," University of Nottingham: Department of Agriculture and Horticulture.

Shaw, Edward S. (1973) *Financial Deepening in Economic Development*, New York: Oxford University Press.

Smith, Paul F. (1964), *Consumer Credit Costs, 1949-59*, Princenton: Princeton University Press for the NBER.

Srinivasan, Aruna (1988), "A Multiproduct Cost Study of Rural Bank Branches in Bangladesh," Ohio State University: Ph.D. dissertation.

Stiglitz, J. E. and A. Weiss (1981), "Credit Rationing in Markets with Imperfect Information," *American Economic Review*; Vol. 71, pp. 393-419.

Untalan, Teodoro S. and Carlos E. Cuevas (1988), "Transaction Costs and the Viability of Financial Intermediaries," Manila: Central Bank of the Philippines, Workshop on Financial Intermediation in the Rural Sector,

Vasquez, Archibaldo (1986), "Determinants of Household Deposit Behavior in the Dominican Republic," Ohio State University: Master's thesis.

Vogel, Robert C. (1984a), "The Effect of Subsidized Agricultural Credit on Income Distribution in Costa Rica," in Dale W Adams, Douglas H. Graham, and J.D.Von

Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press.

Vogel, Robert C. (1984b), "Savings Mobilization: The Forgotten Half of Rural Finance, in Dale W Adams, Douglas H. Graham, and J.D.Von Pischke (eds.), *Undermining Rural Development with Cheap Credit*, Boulder, Colorado: Westview Press.

Von Pischke, J. D. (1978), "Towards an Operational Approach to Savings for Rural Developers," *Savings and Development*, Vol. 2, pp. 43-55.

Von Pischke, J. D., Dale W Adams and Gordon Donald (1983), *Rural Financial Markets in Developing Countries*, Baltimore: Johns Hopkins University Press.

Wai, U Tun (1957), "Interest Rates Outside the Organized Money Markets of Underdeveloped Countries," *International Monetary Fund Staff Papers*, Vol. 6, No. 1 (November), pp.80-142.

Williamson, Oliver (1975), *Markets and Hierarchies: Analysis and Antitrust Implications*, New York: Free Press.

World Bank (1975), *Agricultural Credit Sector Policy Paper*, Washington, D.C.: The World Bank.